

(12) UK Patent Application (19) GB (11) 2 393 022 (13) A

(43) Date of A Publication 17.03.2004

(21) Application No: 0321020.0
(22) Date of Filing: 09.09.2003
(30) Priority Data:
(31) 10243047 (32) 12.09.2002 (33) US

(71) Applicant(s):
IGT
(Incorporated in USA - Nevada)
9295 Prototype Drive, Reno,
Nevada 89521, United States of America

(72) Inventor(s):
Karen M Cregan
Paulina Rodgers
Anthony J Baerlocher

(74) Agent and/or Address for Service:
Wilson Gunn M'Caw
5th Floor, Blackfriars House,
The Parsonage, MANCHESTER, M3 2JA,
United Kingdom

(51) INT CL⁷:
G07F 17/32

(52) UK CL (Edition W):
G4V VAA V118

(56) Documents Cited:
GB 2333880 A US 6439995 B1
US 20020045475 A

(58) Field of Search:
UK CL (Edition W) G4V
INT CL⁷ G07F
Other: Online: WPI, EPODOC, JAPIO

(54) Abstract Title: Gaming machine bonus game with multiple selection groups

(57) A gaming device having a bonus round with multiple selection groups is provided. The gaming device provides a display (36) having a plurality of selection groups (56-62) including a final selection group (62). Each non-final selection group (56-60) includes selections (64) that yield awards and at least one selection (66) that yields an advance indicator. The advance indicator signals the end of a player's picking from one selection group and the start of the player's picking from a subsequent selection group. The gaming device provides the player with a total number of picks. The player uses the picks to advance through as many selection groups as possible, wherein the awards increase as the player advances.

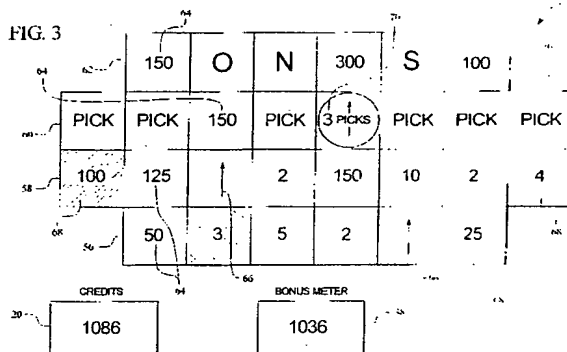


FIG. 1

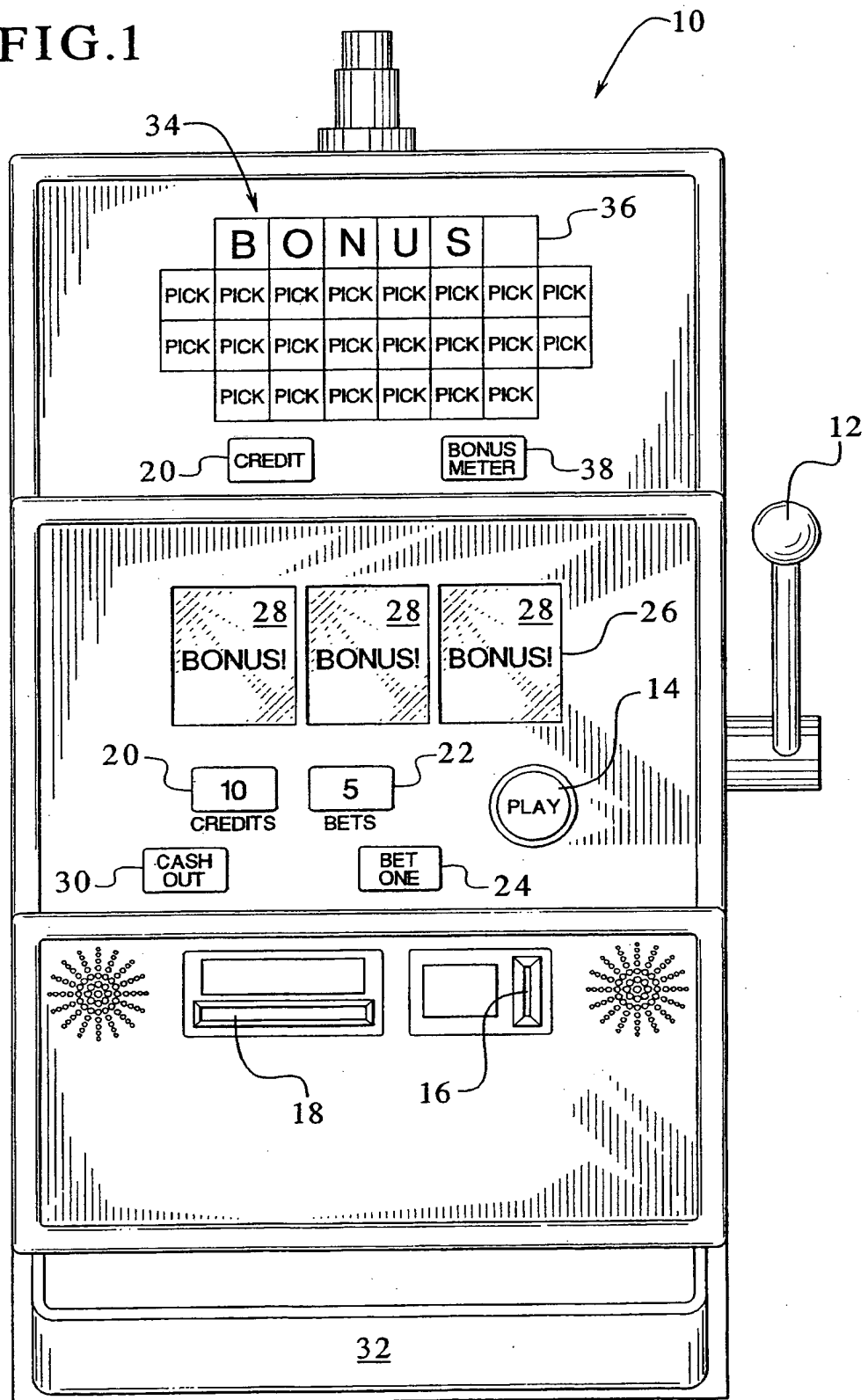
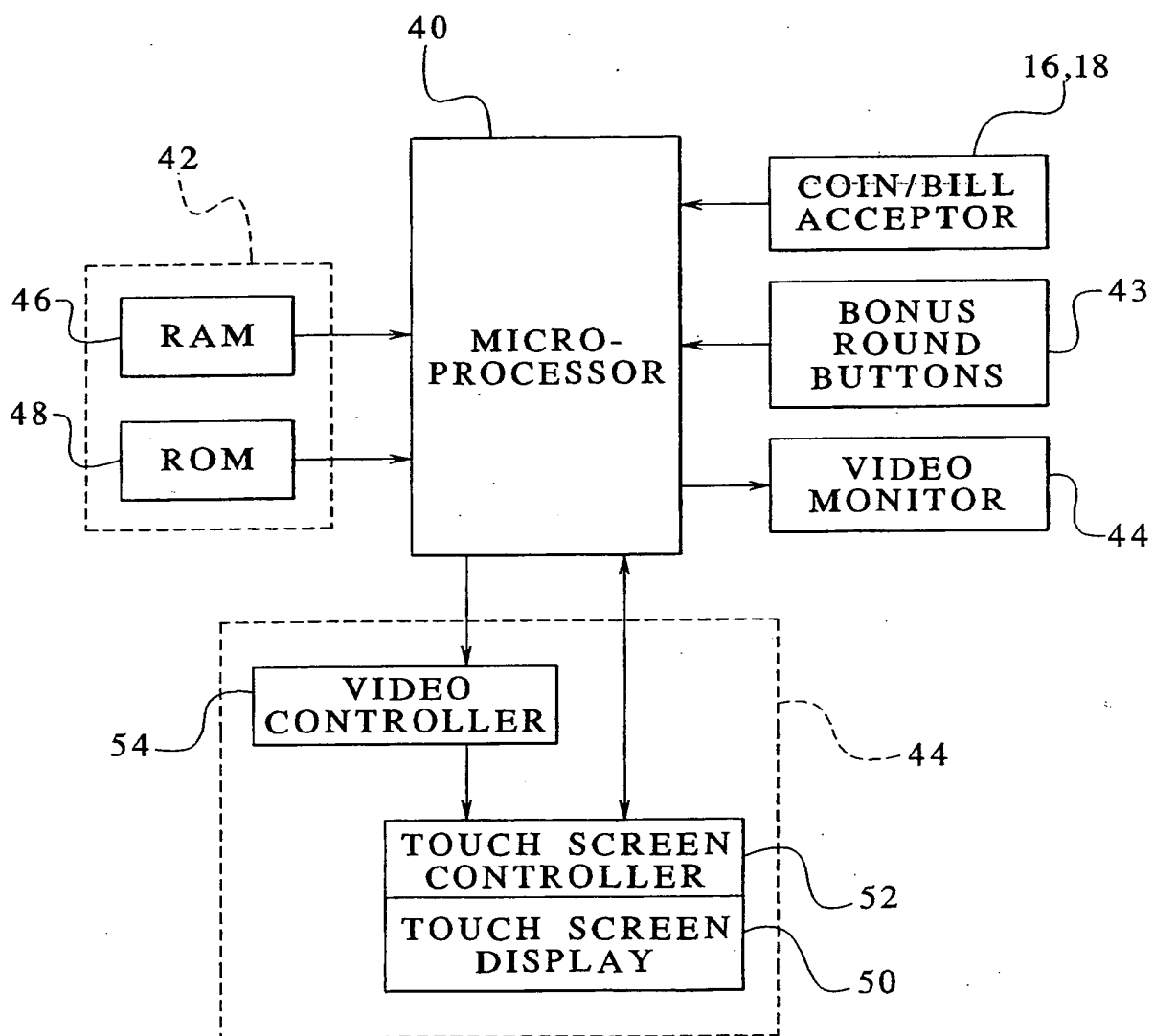


FIG. 2



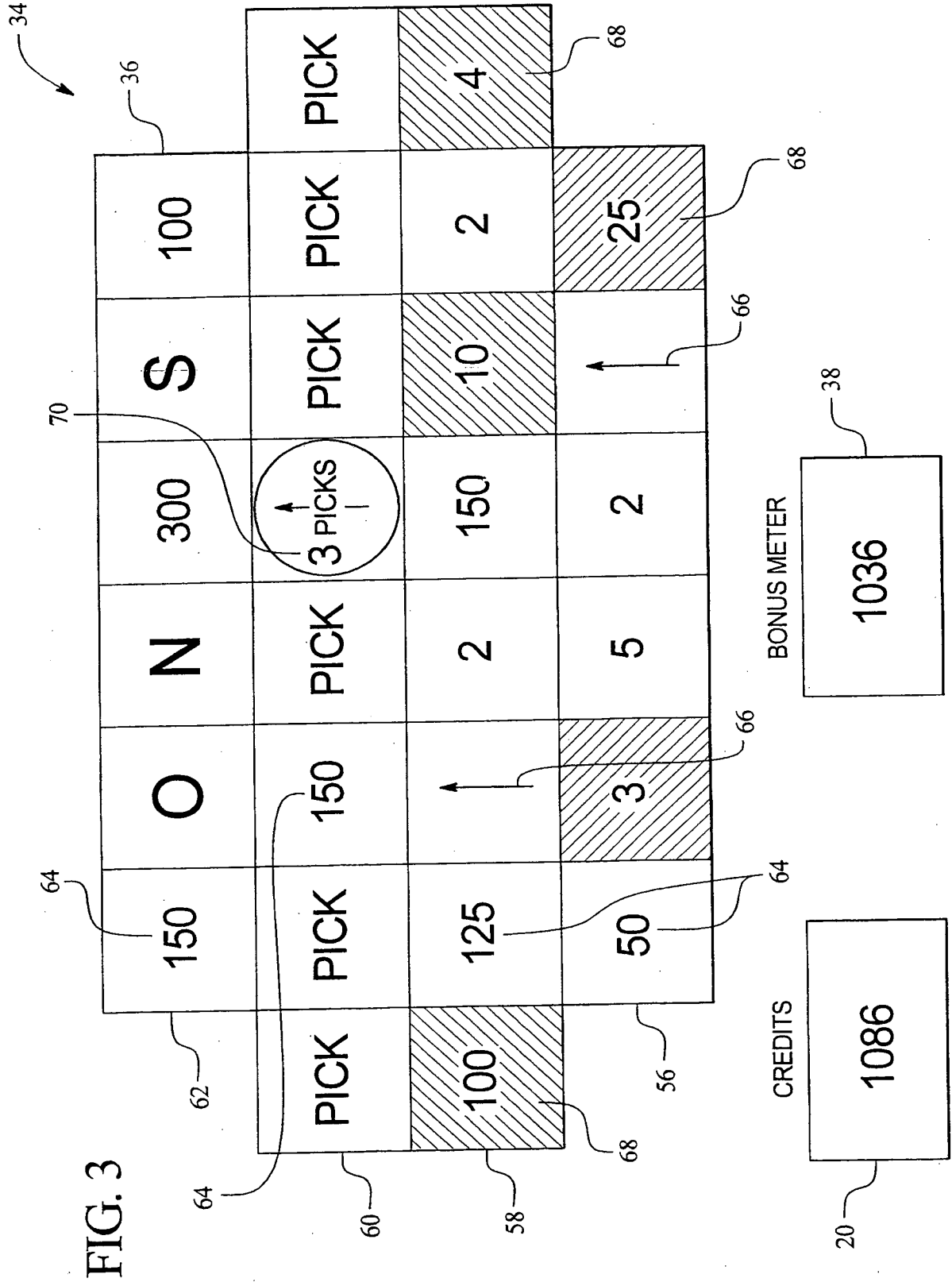


FIG. 4

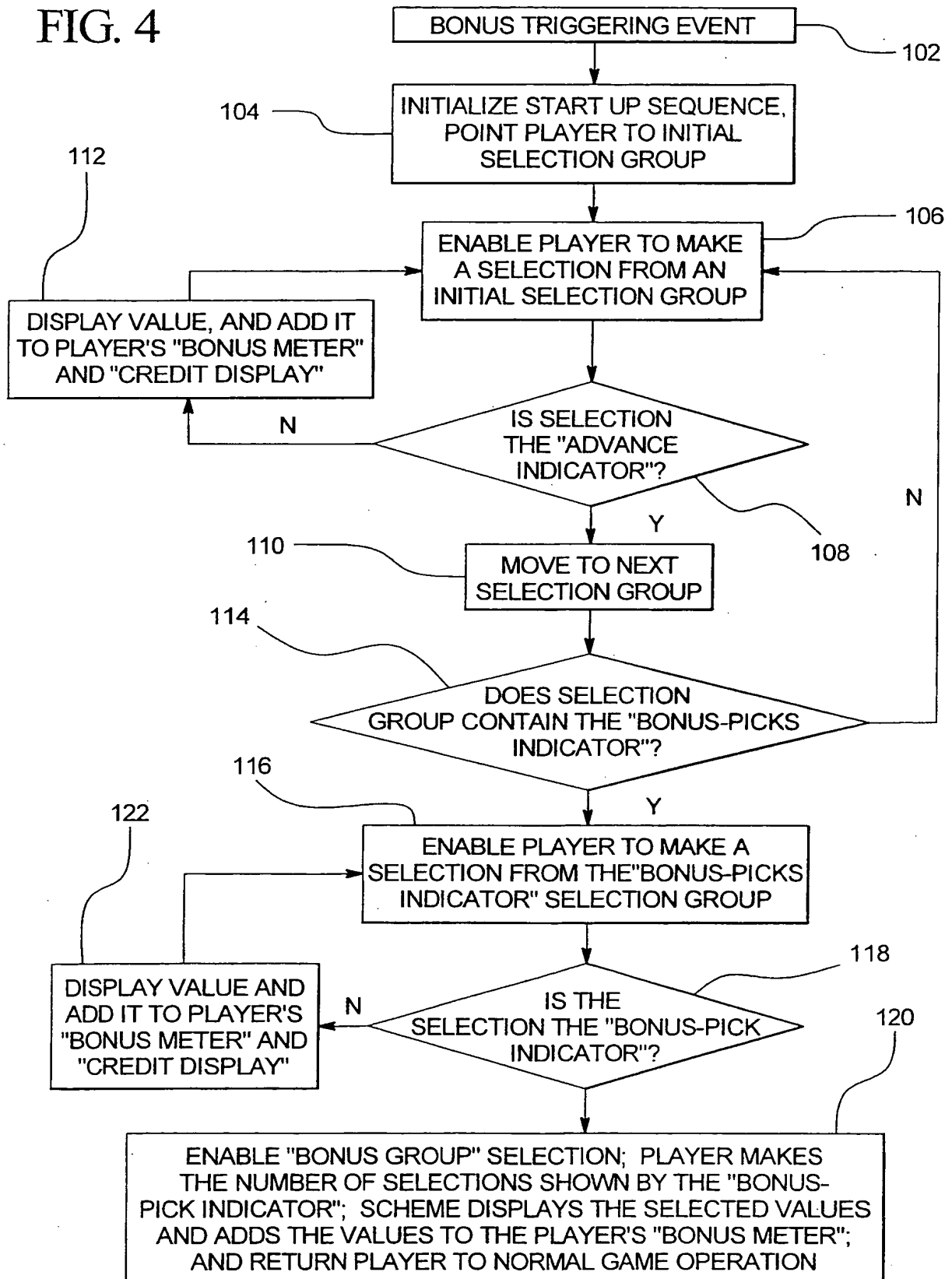
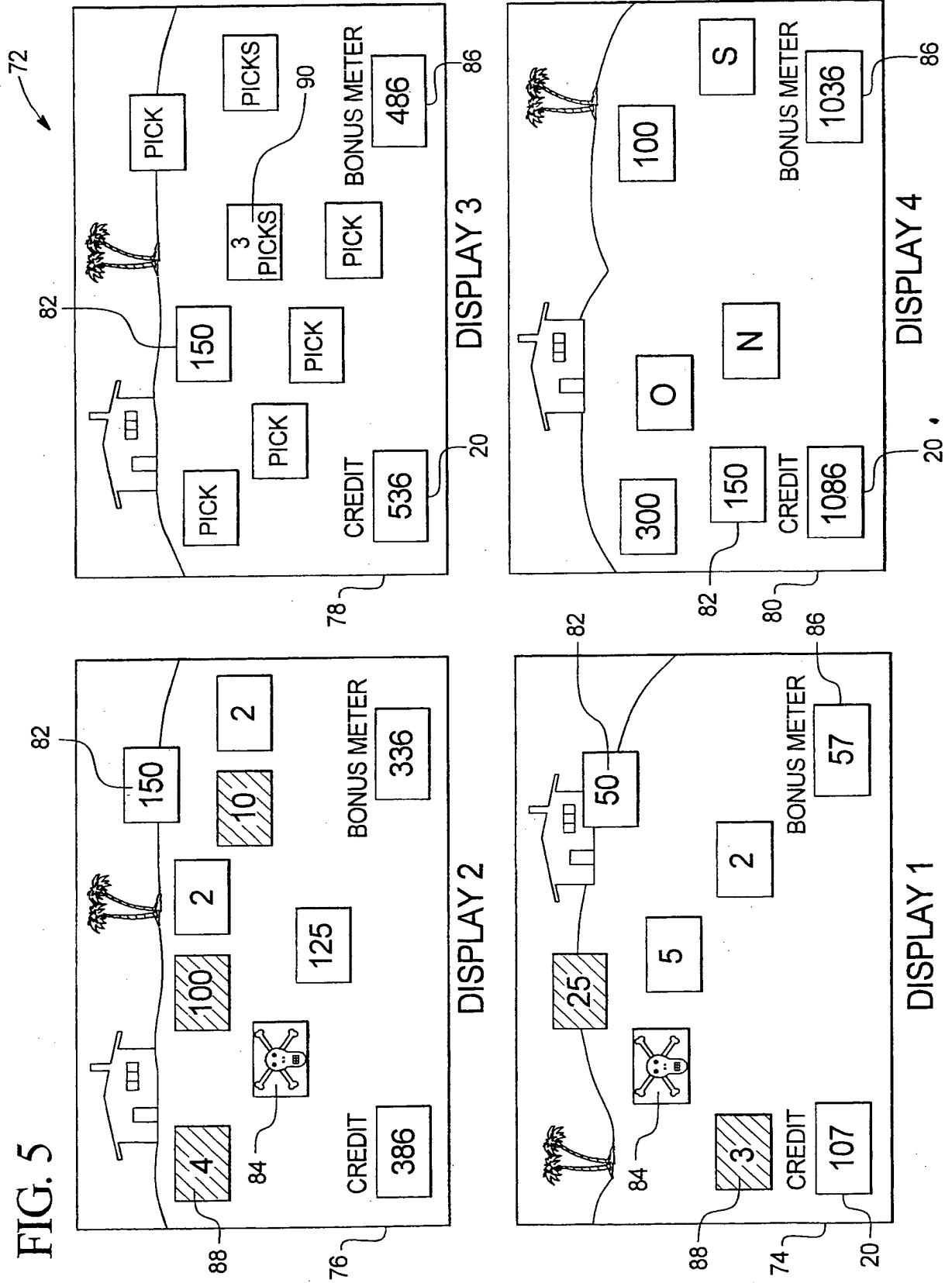
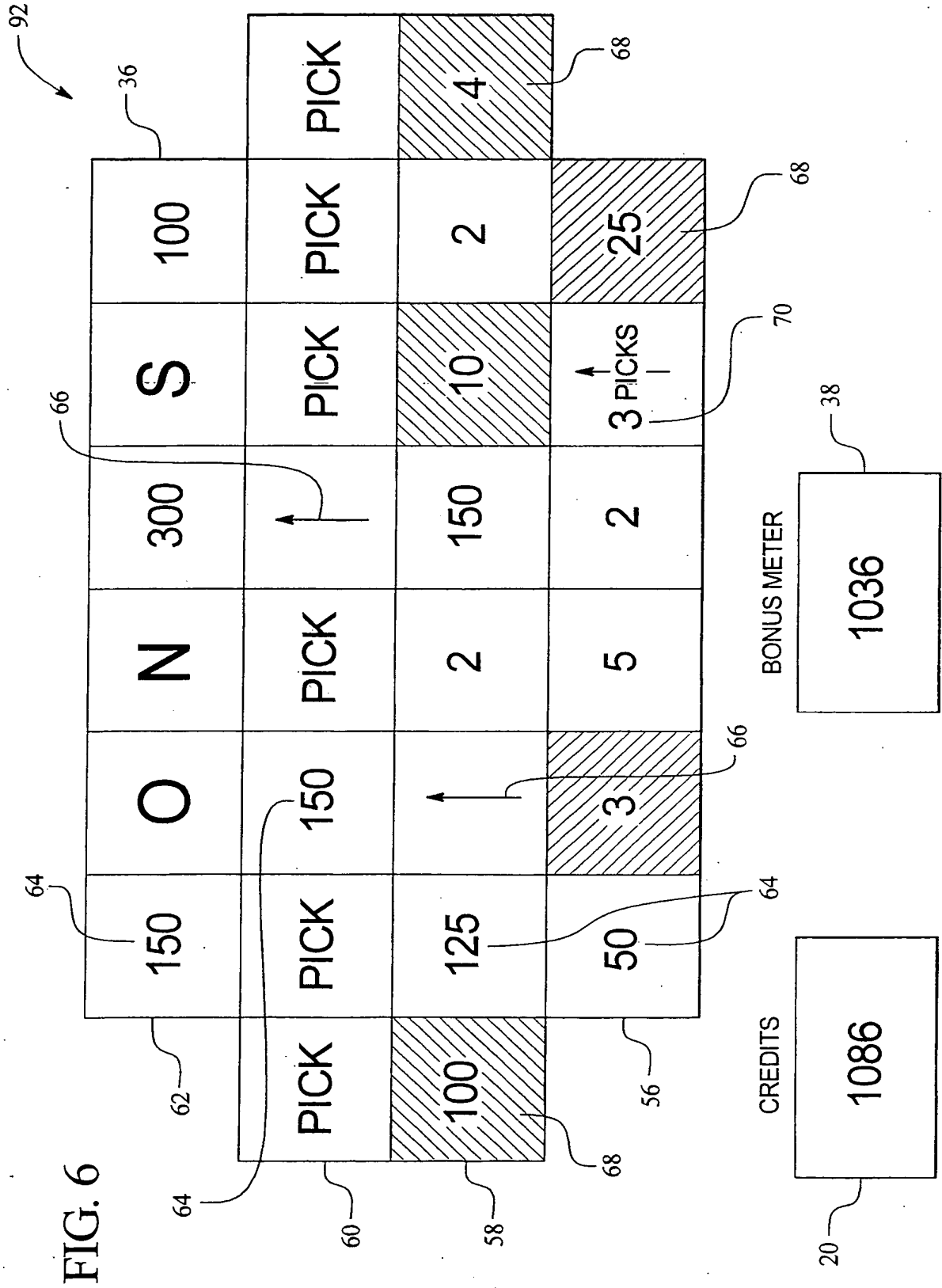


FIG. 5





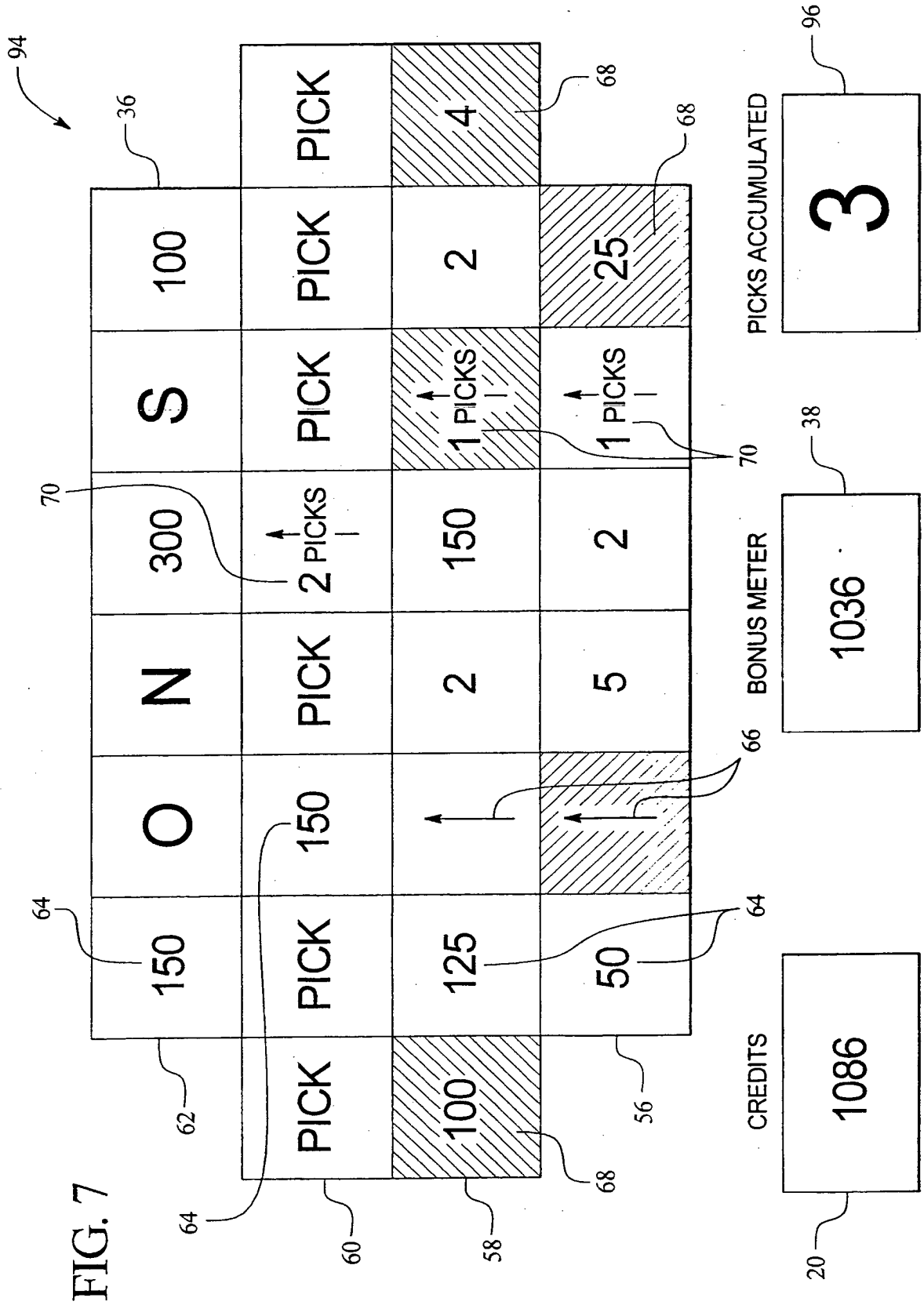


FIG. 8

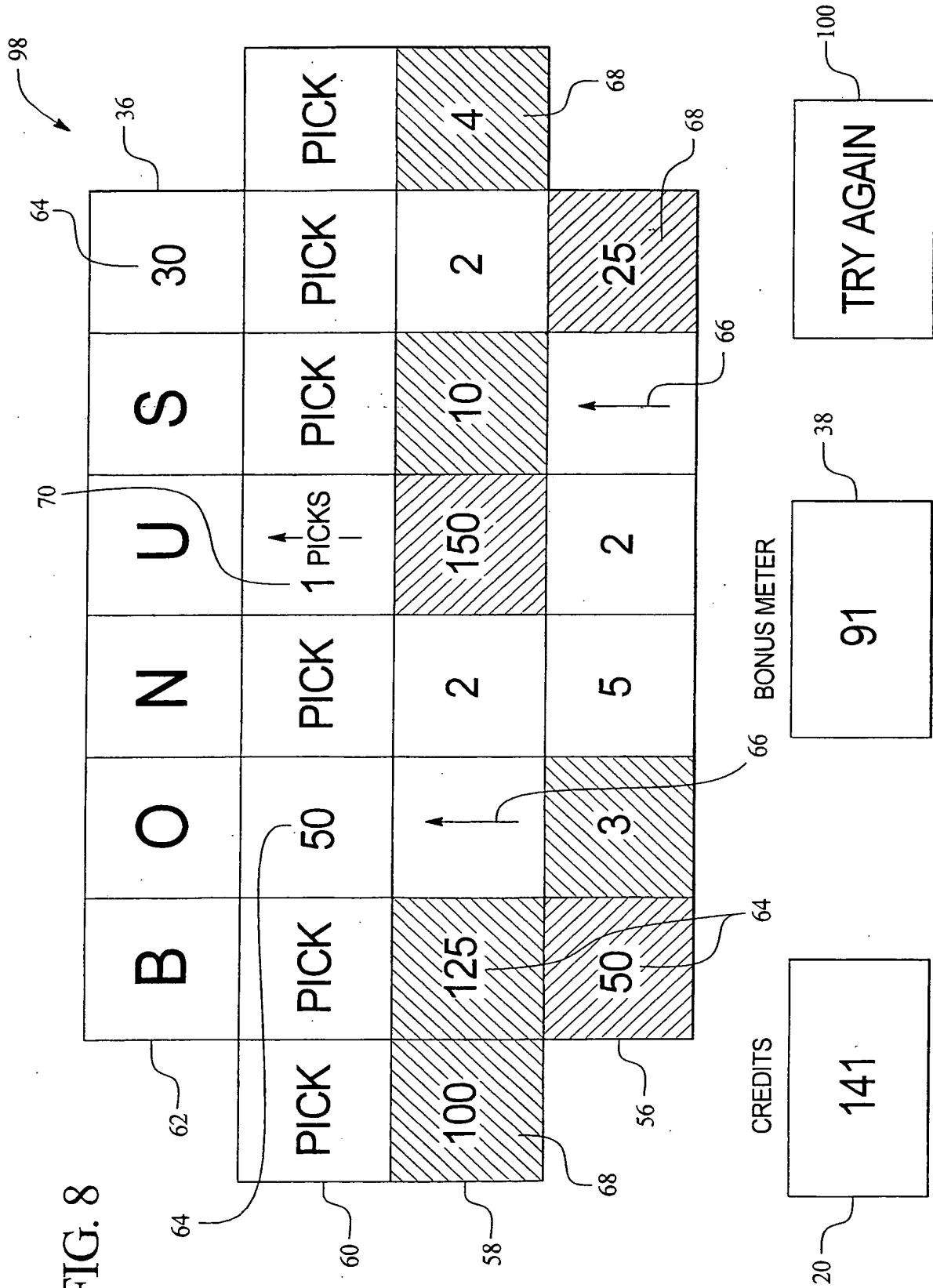
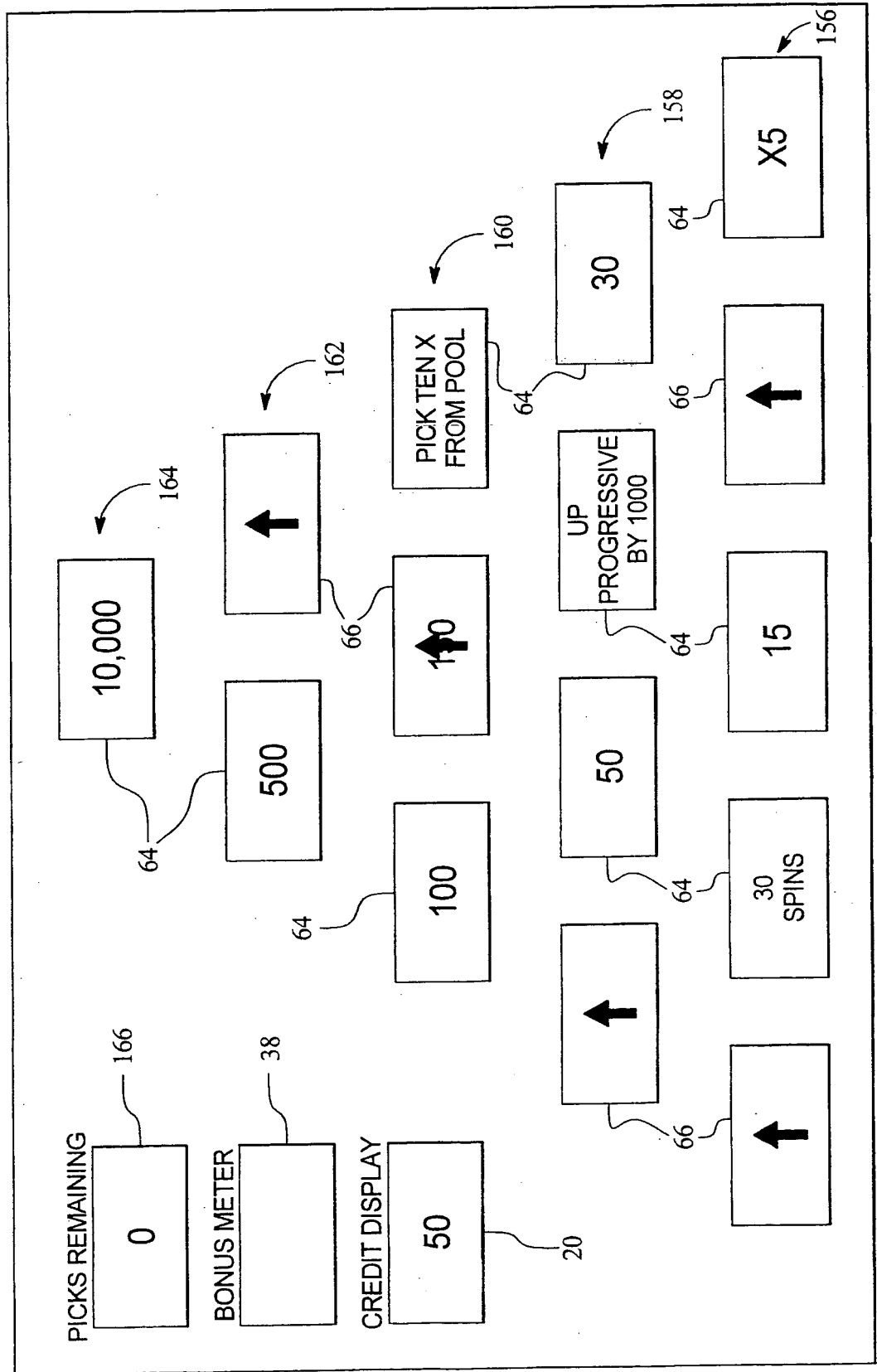


FIG. 9



SPECIFICATION**TITLE OF THE INVENTION****GAMING DEVICE HAVING A BONUS SCHEME WITH MULTIPLE
SELECTION GROUPS**

5

BACKGROUND OF THE INVENTION

Gaming machines currently exist with bonus schemes in which the player has one or more opportunities to choose a particular selection or symbol from a group of symbols. The symbols may be any symbol or image such as a number, letter or graphical representation of a person, place or thing. When a player chooses a symbol, existing games will either award the player a bonus value or terminate the bonus round. The outcome depends upon the particular symbol selected by the player.

In existing games, when the player selects a symbol that awards a bonus value (hereinafter referred to as "award indicator"), the player receives the value, and the player has another chance to select another symbol. Each time the player selects an award indicator, the game prompts the player to make another selection. The bonus round continues and the player may choose another symbol. The player then selects another symbol, and this process continues until the player selects a symbol which terminates the bonus round (hereinafter referred to as an "end-bonus indicator").

When the player selects an end-bonus indicator, typically the game displays a message such as "COLLECT." This message means that the bonus round has terminated, and the player collects any bonus values the player accumulated.

Gaming machines with this type of bonus scheme are programmed so that in each bonus round a certain number of symbols are award indicators and a certain number of symbols are end-bonus indicators. For example, European Patent Application No. EP 0 945 837 A2 filed on March 18, 1999, which is assigned on its face to WMS Gaming, Inc. discloses a bonus scheme generally of this type. This application discloses a bonus scheme where the player selects "value-associated outcomes" from a bonus game with a finite number of selections until selecting an "end-bonus" outcome. While this bonus scheme

offers advantages in player appeal and excitement, there is a continuing need to develop new types of bonus games, which further enhance the level of player excitement and enjoyment.

SUMMARY OF THE INVENTION

5 The apparatus and method of the present invention provides a gaming device having a bonus round with multiple selection groups. The bonus round does not end upon an end-bonus indicator; rather, the bonus round ends when the player chooses a predetermined number of selections from the last or final selection group. The last or final selection group includes an award indicator
10 associated with each selection. In one preferred embodiment of the present invention, the number of player choices or picks in the final selection group (referred to herein as "final selection group picks" or "picks") is determined from a selection group preceding the final selection group. However, it should be appreciated that the number of picks could be determined in any suitable
15 manner.

More specifically, each bonus round of the bonus scheme of the present invention consists of at least one and possibly many displays. Each display may contain one or more selection groups. There are generally two types of selection groups: (i) a final selection group that preferably contains only award
20 indicators; and all other (ii) selection groups that contain award indicators and other types of indicators. There are generally three types of indicators: (i) indicators showing game credits or a bonus value or award (herein referred to as "award indicators"); (ii) indicators advancing a player to another selection group (herein referred to as "advance indicators"); and (iii) indicators
25 designating the number of picks the player has from the final selection group (herein referred to as "picks indicators"). It should be appreciated that in certain embodiments of the present invention, the award, advance and picks indicators could be combined. The indicators are initially masked by symbols or indicia, and the masked indicia are referred to herein as a "selection" or "selections."
30 When a player chooses a selection, the game removes the indicia and displays or exhibits the indicator to the player.

The initial selection groups preferably contain award indicators and at least one advance indicator. There may be any number of initial selection

groups. The number depends upon a bonus round theme designed to further enhance player excitement and enjoyment. Likewise, the game theme determines the number of indicators that any of the above mentioned groups contain. The selection group prior to the final selection group preferably
5 contains at least one award indicator and at least one picks indicator. The final selection group only contains award indicators, which preferably have, on average, higher values than the prior selection groups.

Accordingly, prior to determining the number of picks, the preferred embodiment of the present invention provides the player with at least one
10 selection group in which the player chooses selections which are award indicators until the player chooses an advance indicator that advances the player to the next selection group. Player excitement and enjoyment is enhanced because the present invention provides the player with multiple opportunities to achieve game credits and because the player is guaranteed to
15 have at least one opportunity to select from the final selection group. In one embodiment of the present invention, the final selection group has larger values than the previous selection groups.

In one embodiment, all of the selection groups are contained in one display shown on a video monitor. In another embodiment, the bonus round
20 employs multiple displays, one after another, which may contain one or more selection groups. The game theme determines whether the bonus round employs one or several displays.

In one preferred embodiment, the player selects award indicators from at least one initial selection group until the player selects an advance indicator and
25 moves on to another selection group. When the player is at the selection group prior to the final selection group, the player selects award indicators until the player selects a picks indicator, which determines the number of picks the player will have from the final selection group. The player makes the predetermined number of picks from the final selection group which terminates
30 the bonus round. A separate bonus meter and credit display update the player's game credit accumulation during the bonus round and the player's total credits, respectively. When the bonus round ends, the player returns to the normal operation of the gaming device.

In another embodiment, the player initially selects award indicators from a selection group (containing a picks indicator) until the player selects the picks indicator. The player then advances through a number of selection groups containing award indicators and advance indicators until reaching the final selection group.

In another embodiment of the present invention, the bonus scheme contains multiple selection groups that have picks indicators. The selection groups containing picks indicators could also contain advance indicators. In this embodiment, the game accumulates the bonus picks, which could be shown on a separate meter or counter, until the player advances to the final selection group.

In a further embodiment of the present invention, the bonus round does not terminate upon selection from the final selection group if a contingency occurs. For instance, if the player's bonus credit at the end of the round is below a predetermined limit, the game provides the player with another round of selection groups including a final selection group. It should be appreciated that all of the embodiments of the present invention preferably terminate with a final selection group that contains only award indicators.

It is therefore an object of the present invention to provide a gaming device having a bonus round that provides a player with multiple opportunities to achieve game credits and to guarantee the player of having at least one opportunity to select from a final selection group.

Other objects, features and advantages of the invention will be apparent from the following detailed disclosure, taken in conjunction with the accompanying sheets of drawings, wherein like numerals refer to like parts, elements, components, steps and processes.

Additional features and advantages of the present invention are described in, and will be apparent from, the following Detailed Description of the Invention and the figures.

BRIEF DESCRIPTION OF THE FIGURES

Fig. 1 is a front elevational view of a gaming device having a bonus round with multiple selection groups.

Fig. 2 is a schematic diagram of the controller of one embodiment of the present invention.

Fig. 3 is a front elevational view of a bonus display embodiment of the gaming device having a single screen with multiple selection groups.

5 Fig. 4 is a flow diagram of the preferred embodiment of the bonus scheme of the present invention.

Fig. 5 is an illustration of the sequence of an alternative embodiment of the gaming device having multiple screens, wherein each screen contains a selection group.

10 Fig. 6 is a front elevational view of a bonus display of an alternative embodiment of the gaming device, wherein the picks indicator is chosen before the player reaches the next to last selection group.

Fig. 7 is a front elevational view of a bonus display of an alternative embodiment of the gaming device, wherein the player can choose picks
15 indicators from more than one selection group.

Fig. 8 is a front elevational view of a bonus display of an alternative embodiment of the gaming device, wherein the game enables the player to "try again" upon the occurrence of an event.

Fig. 9 is a front elevational view of a display of an alternative embodiment
20 of the gaming device, wherein the game provides a number of picks to the player.

DETAILED DESCRIPTION OF THE INVENTION

Gaming Device

Referring now to the drawings, Fig. 1 generally illustrates a gaming
25 device or "game" commonly referred to as a slot machine, which incorporates the bonus scheme of the present invention. A player may play the slot machine 10 by pulling an arm 12 or by pushing a play button 14. The player operates the slot machine 10 by placing coins in the coin slot 16 or paper money in the bill
10 acceptor 18. Other devices for accepting payment such as readers or validators
30 for credit cards or debt cards could be used. When a player puts money in the slot machine 10, a number of credits corresponding to the amount deposited is shown in a credit display 20.

The slot machine 10 also includes a bet display 22 and a bet one button 24. The player places a bet by pushing the bet one button 24 and increases the bet by one credit each time the player pushes the bet one button 24. When the player pushes the bet one button 24, the number of credits shown in the credit display 20 decreases by one, and the number of credits shown in the bet display 22 increases by one.

The slot machine 10 has a payout display 26 that contains a plurality of reels 28. Slot machines commonly employ three to five reels that are either mechanical or simulated. Each reel has a plurality of indicia such as bells, hearts, fruits, numbers, letters, bars, etc. that preferably correspond to a theme associated with the slot machine 10. When the player pulls the arm 12 or pushes the play button 14, the reels 28 begin to spin. The reels spin until the processor or controller of the slot machine 10 halts the reels individually or in any combination programmed into the controller. When all the reels stop spinning, the combination of indicia from each reel triggers a bonus round if the combination matches a combination programmed into the controller. Fig. 1 illustrates a possible triggering combination wherein all the reels of the payout display 26 show indicia containing the word "BONUS." It should be appreciated that any combination of indicia could be programmed into the controller of the slot machine 10 to trigger the bonus round.

A player may "cash out" and thereby receive a number of coins corresponding to the number of credits at any time by pushing a cash out button 30. When the player "cashes out", the player receives the coins in a coin payout tray 32. The slot machine 10 may employ other payout mechanisms such as credit slips redeemable by a cashier or electronically recordable cards that keep track of the player's credits. It should also be appreciated that while the bonus scheme of the present invention will be described for use with a slot machine, other gaming devices such as a video card game could employ the bonus scheme of the present invention.

Bonus Scheme Components

Referring still to Fig. 1, the bonus scheme of the present invention, generally indicated by the number 34, includes a controller described below, a display 36, a bonus meter display 38, and the credit display 20, described

above. Alternatively, the bonus scheme could function without either the bonus meter or the credit display. A single, a plurality, or all of the selection groups may appear on a single screen or display or multiple screens or displays.

The bonus scheme 34 may contain one or more rounds. Each round
5 contains at least two selection groups, including a final selection group. Each selection group contains a plurality of selections that remain masked until chosen by a player. The number of rounds, the number of selection groups per round, and the number of selections per selection group may vary as desired by the implementor of the gaming device to maximize player excitement and
10 enjoyment. The rounds, the selection groups, and the selections are discussed in detail below.

The controller of slot machine 10 preferably has the electronic configuration generally illustrated in Fig. 2, which includes: a processor 40; a memory device 42 for storing program code or other data; a video monitor 44
15 such as a cathode ray tube ("CRT") or a liquid crystal display ("LCD") for displaying items such as the selection groups; and at least one input device such as the arm 12, the play button 14, the bet one button 24, and the cash out button 30. In the present invention, the controller determines the random positions and the values for the selections in the various selection groups. The
20 controller preferably maintains the placement of the selections until the bonus rounds end. The controller preferably determines and maintains a different random positioning each time the player plays the bonus round.

The processor 40 is preferably a microprocessor or microcontroller-based platform which is capable of displaying images, symbols and other indicia such
25 as images of people, characters, places, things and faces of cards. The processor 40 can control the coin slot 16 and the bill acceptor 18 and be programmed to require the player to deposit a certain amount of money to start the game. The memory device 42 typically includes random access memory ("RAM") 46 for storing event data or other data generated or used during a
30 particular game. The memory device 42 can also include read only memory ("ROM") 48 to store program code so that slot machine 10 plays a particular game in accordance with applicable game rules and pay tables.

The game could employ separate electro-mechanical bonus round buttons shown only figuratively in block 43 to input signals from the bonus round into the processor 40. In this embodiment, video monitor 44 would merely display the display screens, selection groups, and selections and would also
5 show the indicators when the player unmask a selection. However, it is preferable that a touch screen 50 and an associated touch screen controller 52 are used as an integral part of video monitor 44 instead of the conventional video monitor 44. The touch screen 50 and the touch screen controller 52 are connected to a video controller 54 and the processor 40. The player can make
10 decisions and input signals into the processor 40 by touching the touch screen 50 at places representing the selections of the selection groups.

It should be appreciated that although the processor 40 and the memory device 42 are preferable implementations of the present invention, the present invention can also be implemented using one or more application-specific
15 integrated circuits ("ASIC's") or other hard-wired devices, or using mechanical devices. Furthermore, although the processor 40 and memory device 42 preferably reside on each slot machine 10, it is possible to provide some or all of their functions at a central location such as a network server for communication to a playing station such as over a local area network ("LAN"),
20 wide area network ("WAN"), Internet connection, microwave link, and the like. Such systems are also referred to herein as a processor.

Bonus Scheme Selection Groups

Fig. 3 shows one embodiment of the bonus scheme 34 of the present invention, which includes all the selection groups in one display 36. In this
25 embodiment, the selection groups are four adjacent horizontally extending rows of selections. The selection groups can have any configuration, but preferably, the game enhances player enjoyment during the bonus round by configuring the selection groups according to a predetermined game theme. In this embodiment, the display 36 is intended to emulate the game board from the
30 popular television game show WHEEL OF FORTUNE™. WHEEL OF FORTUNE™ is a trademark of Califon Productions, Inc., Culver City California, used with permission by the assignee of the present invention.

Referring now to Fig. 1, each bonus round includes a plurality of selection groups, and the game initially masks or hides every selection of the selection groups with indicia, preferably conforming to the game theme, until the player selects and reveals the selection. Fig. 1 shows all the selections covered by letters making up the word "B - O - N - U - S" or by the word "PICK." The player does not know the content of a selection until picking it. In this embodiment the four selection groups are in one display 36, however, in another embodiment the selection groups appear in a plurality of displays, as described below.

Fig. 3 shows an example of a display 36 as it would appear after the player plays the bonus round. The display 36 contains four rows of selection groups 56, 58, 60 and 62. Each row or selection group has a plurality of selections (either masked or unmasked). Rows 56, 58, 60 and 62 all contain award indicators 64, having indicia corresponding to a number of credits or a multiplier value that the player receives for choosing the selection. The indicia are preferably numbers as shown but could also be a plurality of items such as fruits, bells, or bars, etc., the number of which represents a number of credits or a multiplier value. Rows 56, 58 and 60 also contain advance indicators 66 that point to another selection group and inform the player that the player may no longer select from the current selection group and must move to the next selection group. The embodiment in display 36 employs arrows that direct the player to advance to the selection group directly above the current selection group. Alternatively, the advance indicators may award credits or multipliers to a player as well as direct the player to the next selection group. In bonus round 34, the player begins in the bottom selection group 56 and advances upwardly until ending with the last selection group 62.

In Fig. 3, selection groups 56 and 58 contain a number of revealed selections 68 with angled hatching. The angled hatching designates selections that the player did not pick before choosing an advance indicator 66. It should be appreciated that to increase the enjoyment and excitement of the bonus round, the game may show the player the values the player could have chosen. This display could take place at the end of selecting from each selection group or at the end of the bonus round. Alternatively, the game could keep the

selections masked as illustrated in selection groups 60 and 62. It should be appreciated that the game could reveal selections in any suitable manner.

Selection group 60 is the selection group before the final selection group 62. Selection group 60 preferably contains at least one picks indicator 70, which is preferably a number as shown but could also be any suitable symbol such as fruits, bells, or bars, etc. The picks number 70 represents the number of picks that the player will have from the final selection group 62. Preferably, selection group 60 contains more than one picks indicator 70 and one or more award indicators 64.

The picks indicator 70 includes indicia as shown in Fig. 3 with the word "picks". Also, the picks indicator may contain indicia that points to the final selection group, shown in Fig. 3 as an arrow, or may otherwise inform the player to move to the final selection group. In an alternative embodiment of the present invention, the game replaces the arrow of picks indicator 70 and the advance indicator 66 by changing the display 36.

In an alternative embodiment, the picks indicator 70 is replaced with an additional advance indicator, which directs the player to the final selection group. The additional advance indicator may also award the player credits or multipliers. The game randomly selects the number of picks that the player will have when the player reaches the final selection group at or before the time when the player selects the picks indicator. The game may determine the number of picks at the beginning of the bonus round or upon the picks indicator selection.

The final selection group 62 preferably contains only award indicators or multiplier values 64. The bonus round ends after the player makes the number of selections from the final selection group 62 equal to the picks indicator 70 in the selection group 60. In general, to increase player enjoyment, each selection group contains award indicators having, on average, higher values than the preceding selection group. The final selection group is preferably the most lucrative group, making the picks indicator 70 the key to the player's success in the bonus round 34. The higher the picks indicator, the more chances the player has to select from the lucrative final selection group 60.

As the player obtains award indicators 64, the bonus meter 38 tallies the selections. At the end of the bonus round 34, the bonus meter 38 will show the player the total credits earned during the bonus round. Preferably, the bonus meter does not tally the picks indicator value since this indicator does not represent game credits. In an alternative embodiment, the picks indicator 70 could also award credits as does the award indicator 64. Additionally, the game may provide a second credit display 20 in close proximity to the display 36 so that the player may easily see the player's total credits. Alternatively, the credit display 20 in close proximity to the display could be the only credit display that the game provides. It should be appreciated that neither the bonus meter 38 nor the credit display 20 are critical to the bonus round 34.

Bonus Round Sequence

Fig. 4 illustrates the preferred embodiment. Upon a bonus round triggering event as indicated by block 102, the game preferably increases player enjoyment by showing the player an initialization of the bonus round as indicated by block 104. For instance, the game may leave the video monitor 44 or the touch screen 50 (Fig. 2) of the game blank until the triggering event occurs. Alternatively, the game could indicate that the display 36 (Fig. 3) is "thinking" of the indicators to place behind the masked selection groups 56, 58, 60 and 62. At the end of the initialization, the game directs the player to the initial or first selection group as indicated by block 104.

As described above with Fig. 3, the selection groups 56 and 58 contain a plurality of award indicators 64 and at least one advance indicator 66. The player chooses a masked selection from the selection group 56 as indicated by block 106. The game unmask the selection and shows the player the indicator. If the selection is an advance indicator 66 as indicated by diamond 108, the player is directed to the next selection group as indicated by block 110. If the selection is not an advance indicator 66 as indicated by diamond 108, then the selection is preferably an award indicator 64. If so, the game displays the value of the award indicator and adds the value to the player's bonus meter 38 and credit display 20 as indicated by block 112 and enables the player to make another selection from the initial selection group as indicated by block 106.

The present invention contemplates using any suitable visible means to direct the player to make another selection from the current selection group such as highlighting the selection group until the game no longer enables the player to select from that group, at which time the game highlights the next selection group. Alternatively, the game may employ a separate "pick again" indicator that lights until the player makes another selection from the current selection group. The invention also contemplates using any suitable audible signals to direct the player to choose from a current selection group or otherwise to choose from another selection group.

10 The player will inevitably choose an advance indicator in the initial selection group as indicated by diamond 108. The player wants to prolong the selection process to accumulate as many credits as possible before advancement. Game excitement and enjoyment increases as the player selects from the selection groups because the odds of choosing the advance indicator increases as the number of selections remaining in the selection group decreases. This distinguishes the final selection group described above with respect to Fig. 3, in which the number of picks is known before selecting from it.

After the player moves to the next selection group as indicated by block 110, the game determines if the selection group contains a picks indicator 70 (Fig. 3) as indicated by diamond 114. If not, then the selection group contains an advance indicator, and the game enables the player to proceed as before as indicated by block 106, diamond 108, block 110 and block 112. The present invention preferably enables the player to advance through any number of selection groups before reaching the last selection group. Fig. 3 shows three selection groups 56, 58 and 60 before the final selection group 62; however, the game could provide for any number of selection groups before the final selection group.

Upon reaching the selection group 60 containing a picks indicator 70 as indicated by diamond 114, the game enables the player to make a selection from this selection group as indicated by block 116. The game unmask the selection and shows the player the indicator. If the selection is a picks indicator 70 as indicated by diamond 118, the player is directed to the final selection group 62 as indicated by block 120. If the selection is not a picks indicator as

indicated by diamond 118, then the selection preferably is an award indicator 64. If so, the game displays the value of the award and adds the value to the player's bonus meter 38 and credit display 20 as indicated by block 122 and enables the player to make another selection from the selection group as indicated by block 116.

The player will inevitably select a picks indicator from a selection group as indicated by diamond 118. The player wants to prolong the selection so as to accumulate as many credits as possible before advancement. Game excitement and enjoyment increases as the player selects from the selection group 60 (having the picks indicator) because the odds of choosing a picks indicator increases as the number of remaining selections decreases.

Upon selecting the picks indicator 70 as indicated by diamond 118, the game enables the player to make selections from the final selection group 62 as indicated by block 120. As stated earlier, the picks indicator 70 represents the number of picks that the player will have from the final selection group 62. When the player makes the predetermined number of selections, the game unmask the award indicators 64 and shows the player the values. The game adds the values to the player's bonus meter 38 and credit display 20 and ends the bonus round 34 by returning the player to normal game operation.

Selecting from the final selection group 62 of the bonus round 34 involves making the predetermined number of selections. The object is to choose the most valuable indicators in the final selection group 62. When the player finishes making the selections, the game may reveal the unselected selections, as described above, to increase player enjoyment. When the bonus round 34 ends, the game resets the bonus round by blanking the video monitor 44 or the touch screen 50 (Fig. 2) or by otherwise masking the indicators of selection screen 36.

In one example illustrated by Fig. 3, a player playing a slot machine enters a bonus round when a set of reels of the gaming machine displays "BONUS", "BONUS" and BONUS." The game initializes the bonus round 34 and directs the player to the initial selection group 56. The player randomly selects the "5", the "50", the "2", and finally the advance indicator 66. As the player selects the "5", "50" and the "2", the bonus meter 38 continuously

updates the player's bonus round credits, "5", "55" and "57", respectively. Assuming the player had 50 credits before entering the bonus round, the credit display 20 continuously updates the player's total game credits, "55", "105" and "107", respectively. The bonus meter and credit display remain active
5 throughout the bonus round.

When the player selects the advance indicator 66, the game reveals the "3" and the "25" to the player as unselected award indicators and lost opportunities. The advance indicator 66 directs the player to selection group 58, and the game enables the player to select from that group. The player
10 randomly selects the "2", the "125", the "2", the "150", and finally the advance indicator 66. The advance indicator 66 directs the player to selection group 60, and the game shows the player the unselected "100", "10" and the "4" and enables the player to select from selection group 60. The player randomly selects the "150" and the "3picks" picks indicator. In this example, the
15 unselected indicators remain masked, however, the present invention could alternatively display the remaining unselected picks indicators and awards.

When the player selects the picks indicator 70, the indicator directs the player to the final selection group 62, and the game enables the player to select from that group. The player randomly makes the predetermined three picks
20 "300", "150" and "100", and the game adds the values to the bonus meter and credit display, ending the bonus round 34. The bonus meter 38 and the credit display 20 show the accumulated bonus round credits "1036" and "1086" assuming, as before, that the player had 50 credits before entering the bonus round. In this example, the unselected indicators remain masked, however, the
25 present invention could alternatively reveal the remaining unselected final selection group awards.

Multiple Display Embodiment

Fig. 5 illustrates another embodiment of the bonus scheme 72, which is identical in function to bonus scheme 34 except that it places the selection
30 groups into a plurality of separate displays. In this embodiment, the selection groups are contained in the four separate displays 74, 76, 78 and 80. The video monitor 44 or the touch screen 50 (Fig. 2) shows one display and thus one selection group at a time. Alternatively, any screen could contain more than

one selection group. As before, the game enhances player enjoyment during the bonus round by configuring the selection groups according to a predetermined game theme. In this embodiment, the displays 74, 76, 78 and 80 depict spooky graveyard scenes. The game can further enhance game excitement and enjoyment by varying the screens to match the intensity and potential game credit value of the displayed selection group.

In this embodiment, upon a bonus triggering event, the game provides an initial selection group or display 74, which contains a plurality of hidden indicators. If the display 74 contains more than one selection group, the game directs the player to the initial selection group.

The initial displays 74 and 76 contain a plurality of award indicators 82 and at least one advance indicator 84. The player chooses a masked selection from an initial selection group. The game unmask the selection and shows the player the indicator. If the selection is an advance indicator 84, the player is directed to the next display. If the selection is not an advance indicator 84, then the selection is preferably an award indicator 82. If so, the game displays the value of the award and adds the value to the player's bonus meter 86 and credit display 20 and enables the player to make another selection from the initial selection group 74.

As indicated above, the present invention contemplates using any suitable visible means to direct the player to make another selection from the current selection group. When a single display only contains one selection group, the player will intuitively select from the display until the game changes the display. In such a case, and especially for embodiments where a single display contains multiple selection groups, the game preferably highlights the selection group until the game no longer enables the player to select from that group, at which time the game highlights the next selection group. Alternatively, the game employs a separate "pick again" indicator that lights until the player makes another selection from the current selection group. The invention also contemplates using any suitable audible signals to direct the player to choose from a current selection group or otherwise to choose from another selection group.

After the player moves to the next selection group in another display, the game determines if the display contains a picks indicator 90. If not, then the display preferably contains an advance indicator 84, and the game enables the player to proceed as before. Fig. 5 shows two initial displays 74 and 76,
5 however, the game could provide any number.

Upon reaching the display 78 containing a picks indicator 90, the game enables the player to make a selection from this display. The game unmaskes the indicator and shows the player the selection. If the selection is a picks indicator 90, the player is directed to the final selection display 80. If the
10 selection is not a picks indicator, then the selection is preferably an award indicator 82. If so, the game displays the value of the award and adds the value to the player's bonus meter 86 and credit display 20 and enables the player to make another selection from the award display.

Upon selecting the picks indicator 90, the game enables the player to
15 make selections from the final selection display 80. As stated earlier, the picks indicator 90 represents the number of picks that the player will have from the final selection display 80. When the player makes the predetermined number of selections, the game unmaskes the award indicators 82 and displays the values to the player. The game adds the values to the player's bonus meter 86 and
20 credit display 20 and ends the bonus round 72 by returning the player to normal game operation.

Fig. 5 also illustrates an example of a player playing a bonus round. The game initializes the bonus round 72 and directs the player to the initial selection group 74. The player randomly selects the "5", the "50", the "2" and finally the
25 advance indicator 84, a skull and cross bones indicating the death of this display. As the player selects the "5", "50" and the "2", the bonus meter 86 continuously updates the player's bonus round credits, "5", "55" and "57", respectively. Assuming the player had 50 credits before entering the bonus round, the credit display 20 continuously updates the player's total game
30 credits, "55", "105" and "107", respectively. The bonus meter and credit display remain active throughout the bonus round.

In the multiple display embodiment, the present invention contemplates the bonus meter 86 operating two ways. In one way, the bonus meter

accumulates the bonus credits "57", "336", "486" and "1036" as the player proceeds through the bonus round 72 as shown. In another way, the bonus meter 86 accumulates the bonus credits display by display, so that the game resets the bonus meter when the game changes displays. The bonus meter 86
5 would display "57", "279", "150" and "550." The present invention could also provide both types of bonus meters.

When the player selects the advance indicator 84 of display 74, the game reveals the "3" and the "25" to the player as unselected indicators and lost opportunities. The game either displays the next display 76, as in this example,
10 or directs the player to another selection group within display 74. In either case, the game enables the player to select from the next selection group. The player randomly selects the "2", the "125", the "2", the "150" and finally the advance indicator 84 of display 76. The game reveals the unselected "100", "10" and the "4" in display 76 and then enables the player to select from display 78. The
15 player randomly selects the "150" and the "3picks" picks indicator 90. In this example, the unselected selections remain masked, however, the present invention could alternatively display the remaining unselected picks indicators and awards.

When the player selects the picks indicator 90, the game advances to the
20 final selection display 80, and the game enables the player to select from that display. The player randomly makes the predetermined three picks "300", "150" and "100", and the game adds the values to the bonus meter and credit display, ending the bonus round 72. The bonus meter 86 and the credit display 20 show the accumulated bonus round credits "1036" and "1086" assuming, as before,
25 that the player had 50 credits before entering the bonus round. The unselected indicators remain masked, however, the present invention could alternatively reveal the remaining unselected final selection group awards.

Alternative Picks Indicator Embodiment

Fig. 6 illustrates another embodiment of the bonus scheme 92, in which
30 the player selects the picks indicator 70 from a selection group 56 that is not displayed immediately prior to the display of the final selection group 62. For illustration purposes, this embodiment is shown in connection with the single display embodiment 36, however, this embodiment could contain more than one

display. In this embodiment the player advances upward through adjacent horizontal selection groups 56, 58, 60 and 62 as before, except now the player learns the number of final selection group picks earlier in the bonus round. It should be appreciated that picks indicator 70 could be also be placed in any
5 initial selection group, such as selection group 58. The bonus meter 20 and credit display 38 operate as described above.

Alternative Multiple Picks Indicator Embodiment

Fig. 7 illustrates another embodiment of the bonus scheme 94, in which the player selects picks indicators 70 from a plurality of selection groups. In this
10 example, all the selection groups 56, 58 and 60 other than the final selection group 62 contain picks indicators 70. However, not all selection groups would have to contain picks indicators. For illustration purposes, this embodiment is shown in connection with the single display embodiment 36, however, this embodiment could contain more than one display.

15 The selection groups could contain both picks indicators and advance indicators as shown by selection group 58. It should be appreciated that the player would accumulate credits from the group 58 by choosing award indicators 64 until choosing either the advance indicator 66 or the picks indicator 70. The game accumulates the final selection group picks until the player finally
20 reaches the final selection group. In this example, the player achieved one final selection round pick from the selection group 56, none from the selection group 58, and two from the selection group 60, totaling three. The game could provide a separate "picks meter" 96 to display the player's total number of final selection group picks as the player accumulates them.

25 Multiple Round Embodiment

Fig. 8 illustrates another embodiment of the bonus scheme 98, in which the game enables the player to "try again" when an event occurs. The implementor can choose any event to trigger the try again feature. For example, the game could enable the player to try again when the round ends
30 after a predetermined number of picks. Another example would be when, at the end of the bonus round, the player's accumulated credits are below a predetermined lower limit. The bonus round does not terminate upon selection from the final selection group when, for example, the player does not

accumulate at least one hundred credits as shown in Fig. 8. The game would display a "try again" message 100 or some other suitable means to inform the player that the bonus round is continuing.

Depending upon the triggering event, the game could reset the player's
5 award accumulation to zero before repeating the bonus round. Alternatively,
the game could add the award accumulated in the repeated round to the
previously accumulated award. Preferably, the player receives a greater award
after playing the repeated round. In the examples above, the game would
preferably add to the player's previously accrued award when a predetermined
10 number of picks triggers the repeat. In this case, the player may well have
accumulated a desirable award and would not want the game to reset the
award. Alternatively, when the triggering event is a player's award having a
value less than a predetermined threshold, the repeat round ensures the player
of obtaining a higher award by resetting the deficient award to zero and starting
15 over until surpassing a threshold level.

This embodiment could enable the player to start over at any point in the
bonus round, including the final selection group where the number of picks is
known. The controller of the present invention could determine a new set of
random positions and values for the selections of the various selection groups.
20 Also, the game could re-mask all the selections and enable the player to choose
any selection or, alternatively, only enable the player to choose from unselected
selections that are still masked with indicia such as the "pick" indicia of selection
group 60 of Fig. 8. The game could enable the player to replay the entire bonus
round, only enable the player to select from the final selection group, or to play
25 any portion of the bonus round.

It should also be appreciated that this embodiment could be used in
conjunction with the single display embodiment 36, as shown here, or the
multiple display embodiment shown in Fig. 5. It should also be appreciated that
every embodiment of the present invention ultimately terminates with a final
30 selection group that contains only award indicators or multipliers.

Accept/Reject Embodiment

A further embodiment of the present invention enables the player to
accept or reject a pick from the final selection group. The sequence of

operation is the same as in Fig. 4, until the player selects the bonus pick indicator as determined in diamond 118. Upon selecting a bonus pick indicator, the game determines whether the player has an accept/reject option. The ways in which a player may obtain an accept/reject option are discussed below. If the player does not have an accept/reject option, the game proceeds as in the earlier embodiment of Fig. 4 as shown in block 120. If the player has an accept/reject option, the game enables the player to make a single bonus group selection and displays the selection.

Next, the game determines whether the player still has an option. If not, the game accepts the pick and adds its value to the player's bonus. If the player does have an option left, the game determines if the player wishes to keep or reject the pick. The game preferably provides a suitable keep or a reject button or has the player press the pick to accept it. The invention contemplates other suitable forms of inputting acceptance, such as providing remote pushbuttons.

If the player decides to reject the pick (i.e., exercises option), the game selects and displays a new value to the player, or alternatively, enables the player to pick another bonus pick from the bonus group. The player proceeds in this manner until the player has no more options or no longer wishes to exercise the change value option, at which point the game accepts the displayed value. If the player has another pick from the final selection group, the game allows the player to make another selection. If not then the game ends the bonus round.

The player may receive any number of accept/reject options in a variety of ways. The present invention contemplates randomly choosing and displaying a number of options. The player can receive the options as the player plays the bonus round (i.e., in the initial selection groups). The game can also randomly prompt the player to accept or reject after certain predetermined selection picks. Alternatively, the player can receive the option during the normal operation of the gaming device.

Number of Picks Embodiment

Referring now to Fig. 9, one alternative embodiment of the present invention is illustrated, which includes the selection groups 156 to 164 in a single display 136. Alternatively, the selection groups 156 to 164 can be

provided in two or more displays as shown above. In the illustrated embodiment, the selection groups are five adjacent horizontally extending rows of selections forming a pyramid shape. The selection groups can have any suitable desired configuration and any suitable number of selections.

5 The display 136 of Fig. 9 is fully revealed to show the outputs of each of the selections (which are originally masked) of the selection groups 156 to 164. To increase the enjoyment and excitement of the bonus round, gaming device 10 eventually shows the player each of the possible values that the player could have chosen. This revealing could take place at the end of picking from each
10 selection group or at the end of the bonus round. Alternatively, the game could keep the selections masked.

 Selection groups 156 to 164 each have a plurality of selections that are masked until a player touches and reveals the output of the selection. Selection group 164 is a final selection group and in the illustrated embodiment has only
15 one selection. In the previous embodiments, which operated with a picks indicator 70, the final selection group included at least two selections, which created a choice for the player in the final set of picks.

 In the illustrated embodiment, gaming device 10 provides the player with a total number of picks, shown in and monitored by the picks display 166. The
20 player uses these picks for all of the selections groups, even a selection group that includes only one selection, such as final group 164. The game may determine the number of picks at the beginning of the bonus round, as the bonus round progresses, or at any earlier point in time. The total number of picks may be predetermined or randomly determined. The random
25 determination may take place in another game or subgame. The predetermined number may be related to the player's wager or the player's wager can skew a random determination of a number of picks.

 Groups 156 to 164 each include awards 64. The final selection group 164 in one embodiment includes only selections that yield awards, wherein the
30 bonus round ends after the player picks from the final selection group 164. The awards 64 can be any suitable value, such as any suitable amount and combination of gaming device credits, a multiplier of gaming device credits, a number of picks from a prize pool, an incrementing of a progressive game, a

number of free games or free spins and any combination of these.

Each succeeding selection group contains awards having, on average, higher values than the preceding selection group. This hierarchy takes into account any of the various types of awards described previously, wherein for example, a progressive game increment in a prior selection group may be deemed to be less valuable than a number of picks from a prize pool provided in a later selection group. The final selection group 164 is preferably the most lucrative group, illustrated here as providing an award of ten thousand. The player therefore desires to reach the final selection group 164 with a pick remaining.

Rows 156, 158, 160 and 162 each include at least one advance indicator 66 that points to another selection group. The pick of a selection that yields an advance indicator 66 signals that the player may no longer select from the current selection group and must move to the next (pointed to) selection group. The embodiment in display 136 employs arrows that direct the player to advance to the selection group directly above the current selection group. As illustrated by the group 160, the advance indicators 66 may additionally award any of the above mentioned types of values or benefits to the player as well as direct the player to the next selection group.

As the player obtains awards 64, the bonus meter or paid display 38 tallies the outcomes of the selections. Additional meters may be added to show a number of picks or free games that are awarded, etc. At the end of the game, the bonus meter 38 will show the player the total credits earned during the bonus round. Additionally, the gaming device 10 updates the credit display 20 to show the player's total credits.

In the illustrated embodiment, gaming device 10 provides the player with a total number of picks that are displayed in the meter 166. The player picks from each selection group 156 to 164 using these picks. The player starts picking with the bottom group 156, works upwards through the groups 158, 160 and 162, respectively, and is required to have at least one pick remaining to reveal the award behind the selection in the final group 164.

In an embodiment, the total number of picks provided is at least enough to reach the final selection group 164. For example, gaming device 10 in the

illustrated embodiment can provide five picks to the player, requiring the player to pick only advance indicators 66 in each of the preceding groups 156 to 162 to have a pick left for the final selection group 64. Alternatively, more than five picks could be provided, where, for example, the final selection group could include multiple selections, wherein only one or less than all of the selections yields a large jackpot type of award. Further alternatively, gaming device 10 can be structured such that a selection that yields an advance indicator does not count as one of the player's picks, i.e., does not decrease the tally in the picks remaining indicator 166.

Although the groups 156 to 164 are illustrated as a pyramid, any of the groups could have any number of selections forming any collective shape. Further, the illustrated embodiment could be combined with any other variation of the game described above, such as providing a redo or play again option if the player fails to reach a certain award level or providing accept or reject inputs for one or more of the selection groups 156 to 164. Any one of the selections in the intermediate groups 156 to 162 or the final selection group 164 can also be a picks indicator 70 or, in addition to providing an award 64 or advance 66, provide a number of extra picks that would increment or add back to the picks remaining indicator 166.

In an embodiment that including the picks indicator 70, gaming device 10 yields via one or more of the selections, a number of additional picks to the player, which increments the picks remaining indicator 166. In a further alternative embodiment, gaming device 10 provides a final selection group with awards 64 and a selection group prior to the final selection group with multiple picks indicators 70. Here, gaming device 10 provides the player with just enough picks to reach the second to last selection group with one pick remaining. If the player is lucky and makes it to the second to last group, the player makes one pick from this group, yielding one of the picks indicators 70, which provides the player with a number of picks from the final award selection group.

In one alternative embodiment of the present invention, the awards associated with the selections include one or more free games symbols or free games associated with one or more of the selections in at least one of the

groups (instead of or in addition to, for instance, the credit values associated with selection). In one such alternative embodiment, one or more multipliers or incrementors are associated with the selections in at least one of the groups. If the player obtains a plurality of free spins and a multiplier in one selection group, that multiplier applies in the free games obtained by the player in that selection group. Thus, any awards obtained in those free games are multiplied by the multiplier associated with those free games.

In one such embodiment, as the player picks the selections, the player gets either credits, a number of free games, a multiplier or an advance indicator.

10 In another embodiment, the game does not include credits associated with the selection; rather, only free games of the primary game are awarded to the player. In a further alternative embodiment, the multiplier is incremented for each pick of each selection having an associated multiplier and accumulated for subsequent use. The accumulated multiplier applies to the various awards such as the free spins obtained by picking selections in that game. In a further alternative embodiment, a number of free spins are associated with each of the selections in a group (except for the advance indicator selection or alternatively including the advance indicator) and multipliers are associated with the selections in another group (except for the advance indicator selection or alternatively including the advance indicator selection). In this embodiment, the multipliers and the free spins are thus obtained and accumulated in different groups until the advance indicator is obtained in that respective group.

It should be appreciated that the free spins of reels could take other forms such as free activations of a video poker, blackjack, keno or other primary game.

While the present invention has been described in connection with what is presently considered to be the most practical and preferred embodiments, it is to be understood that the invention is not limited to the disclosed embodiments, but on the contrary is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the claims. It is thus to be understood that modifications and variations in the present invention may be made without departing from the novel aspects of this invention as defined in the claims, and that this application is to be limited only by the scope of the

claims.

It should be understood that various changes and modifications to the presently preferred embodiments described herein will be apparent to those skilled in the art. Such changes and modifications can be made without
5 departing from the spirit and scope of the present invention and without diminishing its intended advantages. It is therefore intended that such changes and modifications be covered by the appended claims.

CLAIMS

The invention is claimed as follows:

1. A gaming device having a game comprising:
 - 5 a first selection group having a plurality of selections, wherein at least one selection yields an award and at least one selection yields an advance indicator that ends a picking of the selections from the first selection group;
 - a second selection group having a plurality of selections, wherein at least one selection yields an award and at least one selection yields an advance
 - 10 indicator that ends a picking of the selections from the second selection group;
 - a third selection group having at least one selection that yields an award; and
 - a number of total picks of the selections provided to a player with which to pick from the first selection group, and if picks are remaining to pick from the
 - 15 second selection group and if picks are remaining to pick from the third selection group.
2. The gaming device of Claim 1, wherein each of the selections in the third selection group yields an award.
3. The gaming device of Claim 1, wherein the awards are selected
- 20 from the group consisting of: gaming device credits, award multipliers, a number of picks from a prize pool, a number of additional picks from the selection groups, a number of free spins, free game award multipliers, an incrementing of a progressive game and any combination thereof.
4. The gaming device of Claim 1, wherein the awards yielded by
- 25 selections from the second selection group have a higher value, on average, than awards yielded by selections from the first selection group.
5. The gaming device of Claim 1, wherein the number of total selections is predetermined.
6. The gaming device of Claim 1, wherein the number of total
- 30 selections is randomly determined.
7. The gaming device of Claim 1, wherein a pick of one of the selections that yields an advance indicator counts as one of the total number of selections.

8. The gaming device of Claim 1, wherein at least one of the advance indicators includes an additional award outcome.

9. The gaming device of Claim 1, wherein at least one of the advance indicators additionally provides a number of extra picks from the
5 selection groups.

10. The gaming device of Claim 1, wherein the selection groups are displayed by a single display.

11. The gaming device of Claim 1, wherein the selection groups are displayed in separate displays.

10 12. The gaming device of Claim 1, which includes a repeat of the game upon an occurrence of a predetermined event.

13. The gaming device of Claim 12, wherein the predetermined event is the player's accumulated award having a value below a predetermined value.

14. The gaming device of Claim 1, wherein the number of total picks is
15 based on a wager made by the player in a primary game.

15. A gaming device having a game comprising:

a selection group having a plurality of selections, wherein at least one selection yields an award and at least one selection yields an advance indicator that ends a picking of the selections from the selection group;

20 a final selection group having at least one selection that yields an award;
and

a number of total picks of the selections provided to a player with which to pick from the selection group and if picks are remaining to pick from the final selection group.

25 16. The gaming device of Claim 15, wherein the awards yielded by selections from the final second group have a higher value, on average, than awards yielded by selections from the selection group.

17. The gaming device of Claim 15, wherein the number of total picks is at least equal to the number of sections in the selection group.

30 18. A gaming device having a game comprising:

a plurality of selection groups each having a plurality of selections, wherein at least one selection of each group yields an award and at least one selection of each group yields an advance indicator, the advance indicators

each ending a picking of the selections from their respective selection group;

a final selection group having at least one selection that yields an award;

and

a number of total picks of the selections provided to a player with which

5 to pick from the plurality of selection groups and if picks are remaining to pick from the final selection group.

19. The gaming device of Claim 18, wherein the awards yielded by selections from a subsequent selection group have a higher value, on average, than awards yielded by selections from a prior selection group.

10 20. The gaming device of Claim 18, wherein the number of total picks is at least equal to the number of selection groups.

21. A gaming device having a game comprising:

a first selection group having a plurality of selections, wherein at least one selection yields a number of free games, at least one selection yields a multiplier, and at least one selection yields an advance indicator that ends a picking of the selections from the first selection group;

a second selection group having a plurality of selections, wherein at least one selection yields a number of free games, at least one selection yields a multiplier, and at least one selection yields an advance indicator that ends a picking of the selection from the second selection group;

a third selection group having at least one selection that yields a number of free games and at least one selection that yields a multiplier; and

a number of total picks of the selections provided to a player with which to pick from the first selection group, and if picks are remaining to pick from the second selection group and if picks are remaining to pick from the third selection group.

22. A gaming device having a game comprising:

a selection group having a plurality of selections, wherein at least one selection yields a number of free spins of a plurality of reels, at least one selection yields a multiplier, and at least one selection yields an advance indicator that ends a picking of the selections from the selection group;

a final selection group having at least one selection that yields an award; and

a number of total picks of the selections provided to a player with which to pick from the selection group and if picks are remaining to pick from the final selection group.

23. A gaming device having a gaming comprising:

5 a plurality of selection groups each having a plurality of selections, wherein at least one selection of one of the selection groups yields an award including at least one free activation of a primary game, at least one selection yields a multiplier of the awards, if any, in the free activation of the primary game, and at least one selection of each group yields an advance indicator, the
10 advance indicators each ending a picking of the selections from their respective selection group;

a final selection group having at least one selection that yields an award;
and

a number of total picks of the selections provided to a player with which
15 picks from the plurality of selection groups and if picks are remaining to pick from the final selection group.

24. A method of operating a gaming device comprising the steps of:

providing a number of picks of selections to a player from a plurality of selection groups, wherein at least one selection in each selection group yields
20 an award;

enabling the player to pick selections from one of the plurality of groups of selections, not previously picked from until a selection picked from said group yields an advance indicator outcome; and

enabling the player repeat step (b) until the player makes the total
25 number of picks.

25. The method of Claim 24, which includes a low probability that the player will advance to a final selection group based on the number of picks of the selections provided to the player and the number of selections in the selection groups.

30 26. The method of Claim 24, which includes an increasing probability of obtaining the advance indicator in each subsequent selection group.

27. The method of Claim 24, which includes a decreasing probability of obtaining the advance indicator in each subsequent selection group.

28. The method of Claim 24, which includes the step of increasing, from each previous selection group to each subsequent selection group, values of awards provided by picks of the selections.

29. The method of Claim 24, which includes the step of providing an
5 award to the player upon yielding an advance indicator outcome.

30. The method of Claim 24, which includes the step of enabling the player to accept or reject an outcome of a selection from at least one of the selection groups.

31. The method of Claim 24, which includes repeating steps (a) to (c)
10 if the award associated with the picked selections are below a predetermined value.

32. The method of Claim 24, which is operated through a data network.

33. The method of Claim 32, wherein the data network is an internet.

15 34. The method of Claim 24, wherein the number of picks of selections is an initial number of picks, and which includes providing an award selection group having selections that yield awards and a picks selection group, prior to the award selection group, the picks group having selections that yield a number of picks from the award selection group, wherein the initial number of
20 picks is sufficient to enable the player to reach the picks group.

35. The method of Claim 24, wherein at least one of the awards is a number of free activations of a primary game.

36. The method of Claim 35, wherein at least one of the awards is a multiplier of any award obtained in the free activations of the primary game.

25 37. A gaming device and a method substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.



31



INVESTOR IN PEOPLE

Application No: GB 0321020.0
Claims searched: 1 - 36

Examiner: Tom Sutherland
Date of search: 8 January 2004

Patents Act 1977 : Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance	
X	1, 15, 18	GB 2333880 A	(BARCREST) See the Figs and page 4 line 21 to page 5 line 4.
X	1 - 36	US 6439995 B1	(HUGHES-BAIRD et al) Whole document relevant
X	1 - 20 at least	US 20020045475 A	(GLAVICH et al) see the Figs.

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^w:

G4V

Worldwide search of patent documents classified in the following areas of the IPC⁷:

G07F

The following online and other databases have been used in the preparation of this search report:

EPODOC, WPI, JAPIO

THIS PAGE BLANK (USPTO)

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☒ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☐ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.

THIS PAGE BLANK (USPTO)